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Correspondence from particular farmers, giving
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Letters should be signed with the writer's real
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The PLOUGHMAN offers great advantages to ad-
vertisers. Its circulation is large and among the
most active and intelligent portion of the com-
munity.

AGRICULTURAL.

Farming in Canada, Northern
New York and Vermont.

I think if farmers in the more favored
agricultural portions of our country could see
some of the disadvantages under which
farmers in less-favored localities labor, they
would be more content with their lot. I
spent the month of July in Canada, on the
northern bank of the St. Lawrence river,
among the Thousand Islands, and while
there gave some attention to the methods
and conditions of farming. Along the
shore, and for several miles back, the land
is very rocky, not more than 12 to 15 per
cent. available for plowing. The soil will
see no large fields devoted to a single crop,
but patches of oats, corn, barley, potatoes
and meadow land in one enclosure, sepa-
rated, perhaps, by ledges or ridges of rocky
land, through which the plow could not be
forced.

These rocky ridges generally run nearly
parallel with the river, but in some cases
at nearly right angles. About the only
product of the soil sold from the farm is the
product of the cow. The cows are pastured
most of the time upon the rocky, partially
cleared ridges, and sustained through the
winter by grass cut from the meadow plots.
Some of the oats, barley, corn or potatoes
may reach them, but not large quantities. I
suspect. Walking over the pastures, you
would wonder how the scanty growth of
natural and wild grasses could sustain them
and make paying quantities of milk, but the
cows did not look starved. The milk in that
vicinity was taken every morning to a
cheese factory about three miles distant and
made into cheese, each farmer receiving the
cheese to which his milk entitled him. I
ate some of the cheese received by the
farmer with whom I boarded, and while it
was not very rich, and I did not like the
high color, suggesting the use of coloring
matter. They grow tolerably fair crops of
oats, barley, potatoes and, in a moist
season, of grass. Several miles back from
the river there is less rock and farming is
better. I was informed.

But some of the farmers along the St.
Lawrence, eligibly situated, have a market-
able product that brings them in more
money than all the products of the farm
combined, namely, scenery. The broad St.
Lawrence, flowing among its one thousand
(or nineteen hundred) islands, affords pic-
turesque scenery that one does not weary of
viewing, hours in succession, day after day.
Then boating among the islands is a pastime
much enjoyed. Our host has a particularly
favorable location, and his lodging house,
farmhouse and cottage were full most of
the time, and continued so for eight or nine
weeks. During the season he must take in
from \$1200 to \$1500, several times more, I
opine, than the receipts from other products
of the farm.

The last of July we left the Thousand
Islands for Vermont. Went by steamboat
to Ogdensburg, quite a smart little city.
After leaving the islands the shores of the
St. Lawrence on both sides became less
rough and rocky, there was a larger pro-
portion of arable land, but the products did
not appear to be very large, although the
plots of the different species of vegetation
were larger. We also began to see plots of
buckwheat in blossom. Cows, judging by
appearances, are the chief source of income
on both sides of the river.

At Ogdensburg we took cars on the
Ogdensburg & Champlain Railroad to
Rouses Point, on Lake Champlain, near
the Canada line. We were agreeably dis-
appointed with the appearance of farms
along the railroad. The farms were small,
Franklin and Clinton counties. They had
time to prune the grape vines when the
leaves had fallen, and to lay down and
bury such as are not perfectly hardy. They
need not be buried deep, as it is not so much
protection from freezing that they need, as
from the sun and wind when they are
frozen. The raspberries and blackberries
need also to be pruned or cut back about
one-third of their growth and all superfluous
canes cut out, and all dead wood, and

occasion to study farming in this part of
the Green Mountain State. Farming is
much more advanced there than I had
supposed. Many of the farmhouses are
superior, and the barns and other outbuildings
spacious, well built, and many of them well
painted. The dairy is the leading branch
of husbandry, and the farmers from several
miles around carry their milk to Brandon
where the cream is separated and the skim-
milk taken home to be fed to
pigs. The cream is sent to a co-
operative creamery, where it is made
into butter. Our host did not know how
much his milk netted him, but thought not
a very remunerative sum. Do you people
realize what a large proportion of the prod-
ucts of the soil in the eastern part of the
country is being converted into milk and its
products—butter and cheese? Some farmers
in the Otter Creek Valley have considerable
quantities of hay, which is shipped to New
York. A Mr. Bacon, near Leicester, sold
last year 400 tons of hay, besides milking
40 cows and keeping a lot of young
cattle. A neighbor of Mr. Bacon, Mr.
Swinton, farms 1000 acres and feeds a
large herd of steers for beef, in addition to
a large dairy. I saw in Otter Creek valley
heavier hay, in color, than farmers produce
in western New York, and I saw a place on
the upland, partially cut, where the grass
was taller and thicker than any I had seen
before for many years. The hay on the
bottom lands is largely of the natural
grasses, mainly redtop (*Agrostis vulgaris*),
with considerable wild grass mixed. It was
pleasant, after the dry summer elsewhere,
to see the meadows green with the after-
math. Oats grow heavy here, also buck-
wheat, and I saw many fields of corn that
farmers at home would be proud to have.
Many neglected orchards were laden with
apples, and Vermont is the home of the
sugar maple. Most of the farmhouses are
sheltered by them, and many of the lead-
ing highways are bordered with them,
affording delightful shade in the hot
summer. These, with the grand moun-
tain scenery, attract city boarders, and I
suspect that the largest incomes of some of
the farmers are from this source.—P. C.
Reynolds, in New York Tribune.

Farm Hints for November.

HARVESTING LATE CROPS.

The late crops should be harvested soon,
for we know not whether we may not have
an early snow or freezing weather. We do
not like to be prophesying storms because
we have had unusually pleasant weather,
nor cold because the past month has been
warm, but farmers have often had crops
frozen in the ground or buried under snow
because they did not expect the weather to
change as suddenly as it did, and it is better
to be ahead of the season in harvesting
than behind it. Cabbages will be better
in the shed or cellar than to remain
out longer. Pull them and drain
them well before packing in either
place, or trenching them for spring sales.
Turnips will not be injured if the ground
freezes around them before they are pulled,
and we always thought they were all the
wetter for frost, but we have lost
them by having that one freeze come too
severely. After that we liked to pull and
top them, then pile them up out of doors so
that we could take them in or cover them
up when the nights came with signs of freez-
ing before morning. The turnip tops and the
waste cabbage leaves are excellent food
for young stock, and we have fed them to
milk cows by taking care to give them
only after milking, and give no more than
they would eat up clean.

THE CELERY CROP.

Celery should get its last banking early
in the month, and be put in the pit or celery
house before the month ends. We have
seen it wintered well in trenches, and we
have known a whole crop lost in that way.
It requires much care to get the pit so that
it will be well drained and well ventilated
if this method is tried, and then it must be
watched to see that the temperature is not
too hot or so cold as to freeze it. We much
prefer the celery house where it can be
more easily watched and cared for. While
most of the writers say that celery is not
hurt by a temperature of 12° below freezing,
we know that the early varieties are, and
think vary in it. We would prefer to
have it under cover before it goes 5° below
freezing. The early varieties as White
Pinnas and Paris Golden should be ready
for market by Thanksgiving, as after that
the Boston Market and Paschal begin to
come forward freely, and they are so much
better that few people care to buy any
other.

ORCHARDS AND SMALL FRUITS.

After the apples are all gathered make
it a point to go through the orchard and trim
off all limbs that may have been broken by
careless pickers, or other cause. Take them
away and burn them, and it will be well to
rake up and carry away all the leaves after
they have fallen. They serve an excellent
purpose as bedding for cattle or swine, or as
litter in the poultry houses, and add to the
manure heap when so used, while upon the
ground they serve only as a winter harbor
for insect pests and fungous diseases. If not
needed as bedding because of an abundance
of straw, put them in the yards to add to the
manure heap, or even burning them will be
better than leaving them where they
are. While in the orchard it will be a good
time to take one look around for borers,
and to destroy them if found. It is also
time to prune the grape vines when the
leaves have fallen, and to lay down and
bury such as are not perfectly hardy. They
need not be buried deep, as it is not so much
protection from freezing that they need, as
from the sun and wind when they are
frozen. The raspberries and blackberries
need also to be pruned or cut back about
one-third of their growth and all superfluous
canes cut out, and all dead wood, and

all canes that have the red rust. Destroy
the last surely, though there are but a few
spots of it, for it will spread rapidly and
surely kill the whole plantation. And do
not neglect to lay down and cover such of
these as are not hardy. Currants and
gooseberries need old wood cut out lest
they get too thick. Let the ground get well
frozen before covering the strawberry
beds.

CARE OF LIVE STOCK.

Do not allow the stock to spend one
night out of doors after the nights are cold,
or to be out in cold storms. Every cent
saved by so doing, or by allowing them to
eat the frost-killed grass, is more than a
cent lost. They like a warm and dry bed in
a cold night as well as if they were human.
We have found a considerable shrinkage in
milk from only one night or part of a night's
exposure, when an unexpected storm came
up while they were left out, and it was not
easy to bring them back to their normal
production. The fattening cattle and swine
should be pushed along as rapidly as possible
now, giving only good grain to finish them
up. In olden times November used to be
called "killing time" among the small

farmers as comfortable to handle with bare
hands, than a hot bran mash at noon, and
plenty of corn at night, mixing meat and
fresh vegetables or clover in the mash, but
not all would feed alike.

Dairy Notes.

Mr. John Gould of Ohio, well known as
an interesting writer on dairy topics and as
an institute speaker in many States, says of
the silo: "To start with a cow wants in 175
days about five tons of silage or 50 pounds a
day. This means (to cover all losses, waste
on top, evaporation, etc.) six tons, as it
falls on the hill in the field, and will, we
think, make five tons of fed silage. Figure
that an acre of good corn planted in 34 feet
rows, 10 or 11 quarts of seed to the acre, will
make 15 tons of silage. Don't expect 30 to
75. A round silo 30x15 feet in diameter will
hold 60 tons; 24x15 feet, 75 tons; 24x15 feet,
96 tons; 32x15 feet, 105 tons; 30x17 feet, 135
tons. In building, two smaller silos are pref-
erable to one very large one, and for sum-
mer feeding a small one—in comparison—is
a necessity, on account of feeding off quite
a thickness from the surface each day to
prevent waste."



DEVON HEIFER ROSEBUD.

Farmers, as soon as the weather was cool
enough so that the meat would keep well.
They knew that it took more feed to make
a gain after the weather was very cold
than in October and November, and
although this has changed somewhat by the
use of warmer barns and stables ventilated
so that they can fatten at almost any time,
and, so that meat can be cooled and kept
or killed in the hot months, yet as the
longer they are fed the more it costs to
make the gain, it is well to push them
rapidly and kill them early. Especially is
this true of hogs this year, if they are being
fed for market, as it is not likely that the
present high prices of pork and its products
will continue much longer.

PREPARE FOR WINTER.

Buildings should be made snug, and all
the windows and doors put in good con-
dition, under planings banked up so as to
prevent the frost penetrating, and as much
of the winter supplies of food, fuel and
grain put in as the season will allow of. If
it seems getting them home now than hav-
ing to hurry off in a snow storm after them.
Sleighs and sleds should be made ready for
use before the snow comes, for they may be
much needed, or needed in a hurry when the
cows are wanted. Some one might be taken
suddenly sick and die when wheels could
not get through the snowdrifts, while wait-
ing to get the sleigh out of its summer quar-
ters.

FALL PLOWING AND MANURING.

If fine weather continues this month
there may be opportunity to do some late
fall plowing or drawing out of manure. It
is even not too late to sow winter rye,
though we should have preferred to have
had it done last month. Late fall plowing
is like, because it turns the soil up so that
it is penetrated by frost and rain, which af-
fects it by making more available these
chemical elements in the soil, which is also
more fully pulverized by them. And it
also enables such land to dry out for use
earlier in the spring, as the spaces between
or beneath the furrows act as channels for
the water to drain away. The manure
spread on land this month that is to be cul-
tivated next season if not on a side hill
where it will be washed away, will have its
strength carried down into the soil, and
will be more evenly distributed through it
and mixed with it than if not put on until
spring, and if put as a topdressing on grass
land it will help to protect the grass roots
so that they will be ready to make an early
start and a vigorous growth in the spring.

CARE OF POULTRY.

When fixing up the buildings for the farm
stock do not forget the poultry house, as
they are the most profitable of any stock on
the farm if well cared for, in proportion
to the capital that is invested in them. Give
them one more thorough cleaning out before
winter, brushing or spraying roosts, nests
and walls with kerosene, and after that
fumigating the house with burning char-
coal and sulphur. This destroys insect
pests, and will kill rats in their holes, or
any other animal life, so that it is necessary
to air it well before going into it or letting
the hens in.

Have all the cockerels not wanted for
breeding and all old hens not likely to be
profitable this winter in good condition and
ready to send to market, and see that the
pullets are well fed so that they will be
able to produce eggs all winter. We like a
little corn in the early morning as soon as
they come from the roosts, and warm it as

it is inclined to favor the round or tub
silo, made of two by four staves, and with-
out a tight-shingled roof, as he thinks that
a little rain will benefit the silage instead of
being an injury. Other details of construction
he would leave for the owner to decide,
excepting that he would have a solid stone
and cement foundation. We think we
would prefer to feed less than 50 pounds a
day of silage and give other dry fodder to
replace about 30 pounds of it unless cows
were very large, as Holstein or Shorthorn,
and giving a good food of milk.

At a Canadian Institute the essayist, in
answer to questions, said that feed setting
of milk should continue from 12 to 24 hours
in winter; that a starter should be added to
the cream 24 hours before churning; that
skim milk fresh from the separator makes
as good a starter as new milk, and that but-
termilk would do as well as sour milk for
that purpose if perfectly good, but it often
has developed infectious bacteria, as he thinks
that the reason why we are not sufficiently
conscientious in the use of cream is that of
being an injury. Other details of construction
he would leave for the owner to decide,
excepting that he would have a solid stone
and cement foundation. We think we
would prefer to feed less than 50 pounds a
day of silage and give other dry fodder to
replace about 30 pounds of it unless cows
were very large, as Holstein or Shorthorn,
and giving a good food of milk.

In Illinois the law declares that cream
must contain 13 per cent. of butter fat.
Most of the cream sent in by farmers
contains about 25 per cent. This enables
dealers to buy cream at 60 cents a gallon,
and an equal quantity of milk or water to
a gallon, or so says the Chicago News. Those
dealers are not as sharp as contractors
farther east, or they would reduce it one-
half, and then ask double the price they
pay, or about 30 cents a quart.

It is the universal custom in D an
mark to pasteurize all the milk received at
the creameries. There is a law which re-
quires this to be done as a preventive
against the spread of tuberculosis. This
makes it necessary for them to use the pure
outlets as starters in their cream to ripen
it before churning. This is found to in-
crease the uniformity of the butter, and it
raises the general average of quality, but
there are dairies which do not pasteurize or
use cultures that make a higher grade of
butter than those which do both. They
may be exceptional, but the fact is known
to be as stated. But while these methods
may be an improvement for the average
dairy, they will not remove the effects of
carelessness or slovenliness in handling the
milk or caring for the cows. Cream to be
ripened by the culture or starter should be
as good as that which is churned only after
the natural ripening.

It is desirable that the ripening of cream,

either naturally or artificially should be at
a temperature not exceeding 65°, and after
the ripening has been completed, that is,
when the lactic acid has been well devel-
oped, it should be reduced still lower before
churning, say not to be above 50°, and some
of the best butters have been made at 47°.
Cheese also ripens best at a low tempera-
ture. The Experiment Station have said
that cheese ripened at 65° was better than
that which was allowed to stand in a higher
temperature, and that ripened at 55° was
much superior to that at 65°.

The government of New Zealand last year
paid out about \$50,000 for freezing the but-
ter intended for export. As the process
cost three-eighths of a cent a pound, they
must have exported over 13,000,000 pounds.
Next year they propose that the farmer or
shipper shall pay one-half of this cost, that
they may use the money to promote agri-
cultural exports in some other way. They
think that the farmers now understand so
well the need of freezing butter that they
will not be unwilling to pay at least half
the cost of the process, and their exports of
dairy products are expected to increase.

The Food of Animals.

It is a remark no less old than true that
we are often less acquainted with the
nature of facts of every-day occurrence than
with those of a rarer description. This
may proceed from one or two causes.
Either from the phenomena constantly un-
der our notice being neglected in conse-
quence of our familiarity with them, or
from the complexity of their nature and the
intricate purposes which they ultimately
subserve. Some physiologists who have
endeavored to explain the nature of the
process of digestion would ascribe our
ignorance of that important function to the
former of these causes, hence they refer the
preparation of the food in the stomach, for
the purpose of nourishing the body, to the
presence in that organ of an acid, which,
according to them, simply dissolves the
food and enables it to enter as a crucial unit
of the circulating fluid of the animal sys-
tem.

The acid which effects this important
object is the hydrochloric acid which they
consider to have been satisfactorily proved
to be present during the period when food
exists in the stomach, and they conclude
that they can imitate the process of animal
digestion in glass, or other vessels, outside
of the body, simply by exposing animal and
vegetable food to the influence of dilute
acids.

Another class of individuals, who have
studied the interesting changes which the
food undergoes in the stomach and intes-
tines, conceive that we are still unac-
quainted with the true nature of this pro-
cess, and they are inclined to the opinion
that the reason why we are not sufficiently
conversant with the phenomena of diges-
tion depends more on their intricacy and
obscurity than upon a deficiency of research
and observation, and that while we possess
some facts which seem to indicate the di-
rection in which we are to search for a
solution of the subject, we are still at a great
distance from elucidation of the precise
manner in which animals digest their food.

There cannot be a doubt that if we un-
derstood the nature of the process by which
the food we swallow is converted into living
flesh, important results would follow in
reference to the preservation of the health
of animals and the treatment of diseases.
If we are properly acquainted with every
transformation through which the constitu-
ents of the food pass after it has been
masticated until it is finally removed from
the system, it is clear that in cases where
the stomach is unable to perform its accu-
stomed functions the assistance of art might
be called in to minister to digestion. Even
in the present state of our knowledge civil-
ized man cooks their food, or in other
words endeavors to imitate the primary
stages of digestion, while in his wild, un-
tamed state, man, being in a condition akin
to that of the beasts of the forest, scarcely
stands in need of the assistance of art, and
devours his prey with less of enjoyment
than of necessity.

It has been a favorite speculation with
some philosophers, that as beasts thrive
best in the forest, so man is most healthy
in the savage state; that when accustomed
to brave the severity of the winter's cold
and summer's heat, to contend with the
snow and the thunder storm without the
protection of clothing or pampered food, he
is armed like the Spartan of old, with a
shield against the disease and early death
so prevalent among the members of refined
societies; that the catalogue of maladies
existing among a primitive people is exceed-
ingly limited, and that it augments in vol-
ume precisely in proportion to the encroach-
ments of civilization and to the departure
from those simple laws by which nature
in her unobscured state is uni-
formly guided. It is quite true that sim-
plicity in diet is better fitted to perpetuate
health than stimulating and unnatural
food, but it is not necessary that in order
to acquire health man should return to the
savage condition of the savage; nor is it in-
cumbent that although our domestic animals
are seen to thrive well in their primitive
state they should be sent loose under il-
ludicrous conditions. In other words
it does not follow that because savage man
and animals are healthy, civilized man and
his attendant animals should be diseased.

A little reflection will show that a greater
amount of knowledge is required to manage
animals which are subjected to artificial re-
straints than in their original condition, for
while man in a social state undergoes more
mental and physical fatigue than in a state
of more nature, so his attendant animals,
being placed under certain restrictions
foreign as it were to their primitive con-
dition, it is necessary for those who direct

their attention to the management of the
physical nature of both man and animals to
possess such an acquaintance with their
construction and requirements as to be able
to lay down regulations for retaining them
in a healthy and natural condition of body,
and to prevent evils, more especially, from
acquiring that unwholesome fat condition,
which, from want of due attention to the
nature of the animal's system, has assumed
almost the aspect of a permanent feature.

Hunger and thirst are the preliminary
steps to digestion. They constitute a law
implanted in the animal for the purpose of
inducing the living being to take such nour-
ishment as is required to sustain that waste
of the system which animated nature is con-
tinually undergoing. If the dictates of the
sensation of hunger and thirst are ration-
ally obeyed satisfaction and healthy diges-
tion are the result; but if, on the contrary,
these important sensations are neglected,
weakness and disease must necessarily en-
sue. Appetite, or in its more advanced
stage hunger, teaches animals to seek for
solid food, and thirst suggests the propriety
of rendering the solid mass more pulpy and
dilute by the employment of drink. Expe-
rience and reason, both in man and beast,
must in some measure direct the selection
of the proper objects to be employed for
these purposes.

The ridiculous idea of fasting as a reli-
gious observance, and as a means of gaining
a little notoriety is absurd. The sensation
of hunger and thirst constitutes a most im-
portant law in the animal economy. It is
destined by the Creator for the most bene-
ficial purposes, and it ought to be obeyed as
a matter of duty, which, if infringed upon,
some prejudicial result will necessarily
ensue. It is no argument in favor of any
such experiment upon human life that ex-
istence does not terminate upon its adop-
tion, or that the symptoms of some fright-
ful disease are not instantly ushered in.
The seeds of future mischief may be sown
by one experiment, and may only lie dor-
mant until a second or succeeding infringem-
ent shall cause them to spring forth into
living activity.

In the course of an extensive series of
experiments upon cows it was found that
when they were not supplied with sufficient
food during one day the production of milk
was for a day or two in reaching its former
average, thus demonstrating that the animal
had been weakened by the abstinence, in-
asmuch as it took a longer period to reach
the ordinary condition than was required
to reduce it. The milk, in such an experi-
ment, corresponds with the muscle and fatty
portions of the body of animals which do
not supply milk, hence abstinence in all
animals must be followed by diminution
of the weight of the body. It has been well
remarked by Liebig that "In the process of
starvation it is not only the fat which dis-
appears, but also by degrees all such of the
solids as are capable of being dissolved.
In the wasted bodies of those who have
suffered starvation the muscles are shrunk
and unnaturally soft and have lost their
contractility. All those parts of the body
which were capable of entering into the
state have served to protect the remainder
of the frame from the destructive influence
of the atmosphere."

There is no difference in this respect
between one set of animals and another; civil-
ized and savage men, wild and domestic
animals, must all be classed under the
same category. In the human species a
morsel of food is grasped by the front teeth
of both jaws, which are each supplied with
16 teeth, making 32 in all. In those animals
which chew the food, as they have only one
row of teeth, the food is less firmly grasped
by the jaws, and therefore it is more neces-
sary that it should be of a soft and pliable
nature. By the assistance of the lips, ears,
tongue and auxiliary muscles the food is
conveyed into the cavity of the mouth, and
by the aid of the tongue and lateral motion
of the mouth it is placed between the oppos-
ing jaws where it is masticated or ground
to a proper consistence. But the action
of the jaws in grinding the morsel
introduced between them at the same time
exerts the compressing power of the teeth
of the cheek upon the parotid gland,
which is situated in man in front of the ear,
and expels its secreted fluid, the saliva, into
the mouth, to assist in communicating the
nutritive matter. Besides this mechanical
action there is, however, a nervous sym-
pathy called into operation. The masticated
matter acts upon the tongue and adjacent
parts, inducing a sympathy with the glands
placed upon the tongue, and causes them to
pour out their copious contents.

The object of mastication or chewing is,
therefore, to reduce the food to such a con-
sistence as shall fit it for its reception and
proper digestion in the stomach. This is
well illustrated in the instance of animals
which are not supplied with teeth. The im-
portance of the proper grinding of the
food, and of rendering it as soluble as
possible, can be well appreciated by such
individuals as have been the subject of in-
digestion from the crustaceous morsels of
food, of greens and of acid liquors. It is
scarcely necessary to remark that similar
rules are applicable to the inferior animals,
and more particularly in the state of con-
finement, in which most of them are sub-
jected more or less, when they are made to
minister to the wants of the human species.

The following comparative table exhibits
this fact in a sufficiently striking manner.
Two cows were fed on entire barley and
malt steeped in hot water. They were then
fed on crushed barley and malt, prepared
in the same manner. The influence of the
finer division of the grain in augmenting
the production of milk places the impor-
tance of this position beyond all doubt.

CHARLES R. WOOD, V. S.

There is a prize winning two year old in the
Billings stable, sired by Red Heart (519), out
of Jenny K. (2154), by Phyllis.

AGRICULTURAL.

The Quality of Hay in Winter Feeding.

Most farmers ship their best hay to market when prices are good, and retain the poorest grades for home feeding, and this policy produces the best results in the end. That is, it always pays best to ship only the best of any farm produce to market, for in the event of a glut or a surplus of goods, the inferior grades will always be pushed to the wall, and sell sometimes for less than actual transportation charges. It has been my fixed purpose for years, founded upon experience, to ship only fine quality of produce to market. If my products, whether of grain crops, dairy or fruit, will not pass inspection as first class I consider it better policy to sell them to some nearby market which I can reach with a team, thus saving railroad transportation, or to make use of them in other ways at home than to send them to some uncertain city market. In the end I am in pocket. We raise our farm products for money, and we should endeavor to provide the best that money will buy.

But in the matter of wintering stock on the left-over hay, or the inferior grades that were not considered worthy of shipment, there is always the danger of under-feeding the animals, and thus working harm indirectly. It goes without saying that there is less nourishment in a ton of inferior hay than in the same amount of first-class, properly cured hay. Otherwise there would be no demand for the latter at higher prices than the former. Therefore if we give the usual quantity they will not get as much nourishment as if the hay were all first class. An allowance must be made in the difference of the nourishing qualities, which must be made up in either larger quantities of hay or more additional food. Stock can eat only a certain amount of hay without causing bloating, and I have found it much more economical to increase the grain ration a little than the hay supply. With the poor hay I mix enough bran to bring the nourishment of the ration up to about the same standard as the same quality of bright, full length timothy hay. In this way the animals secure as much nourishment without adding any additional burden to their stomachs. Feed cattle through the winter when they have a little exercise with coarse, nutritious food, and they will in most cases gain slowly, and very often develop stomach troubles before the winter is half over. This danger must be avoided in every way possible, and one of the chief causes of the quality of the food we give to the animals.

Live Stock Notes.

Because Southdown mutton has the best reputation in England, many people suppose that it is far superior to any of the other Downs, or indeed any other breed in the quality and flavor of the meat. But the Southdowns of England are natives of the chalk districts or downs in the south and southeast of England, where they find and feed upon an herb; not found in any other district, and the Farmers' Gazette says that when they are removed to other localities their flesh has no flavor superior to that of the other Downs kept in the same feed and fed in the same way. We are glad to know this, for we have thought our taste was in fault when we failed to find Southdown mutton better than some other that we had eaten.

When the lambs are being fattened for market they should be separated while feeding, that they may have better food than the ewes or such lambs as are to be kept for breeding purposes. The latter should be well fed, but with more bran and oats than corn meal, as the object is to make good growth rather than to fatten, while those to be slaughtered should have corn meal, gluten or linseed meal or a mixture of them, to induce them to eat as much as they can digest. It would be better if the fattening stock, both old sheep and lambs could be kept in lots apart from the breeding stock, but where this cannot be conveniently done have a feeding place for the lambs with entrance too small for the old sheep. A movable fence or hurdle such as is used in the old country to yard sheep upon turnips should be more frequently kept on hand and used here by farmers.

The prize-winning sheep at the Ontario Live Stock show were all purchased by one company. The reports from the foreman who cut them up, report that the quality of meat was first class, but there was a waste of from one-third to 45 per cent. in the fat that had to be trimmed off before it could be retailed. This either caused loss or made retail price too high for larger classes of buyers, and even objectionable to the richer class. Those who fatten mutton for market should remember this, that buyers are not willing to pay for the extra amount of fat that it takes to make a prize winner at a show, and possibly we may reach the point by and by where the judges will be able to say that too much fat on an animal, be it sheep or something else, will disqualify it as much as would an absence of fat, from being considered for prize. Today, breeding animals and fowl get premiums because they are so fat as to be entirely unfit for breeding purposes, and animals for slaughter win them because they are so fat that people will not buy them unless about one-third of their weight is cut off to be sold to rendering establishments or the fertilizer manufacturers. Our people have got so that they care little for meat excepting in pork, and some are kicking against that.

Of the several breeds of fat sheep at this test, reports were much alike, but we conclude them. Oute-old, not too much fat, but too much fat on back, good fleshy sheep. Leicester, a little leaner, reasonably fleshy and sweet about right. Lincoln, lean meat good, but fat too thick on the back and met too heavy. Dorset, good retail lamb, but too heavy in the forequarter to suit retailers. Shropshire, nice sheep in all parts, but flesh not of the best quality. Southdown, very thick and fat, lack of flesh (lean meat is meant), but what there is of it exceedingly good quality. Altogether too much sweet. Suffolk, very full of flesh, not as good a quality as Southdown, but not too much sweet.

It would seem to us that the Leicester makes one of the best mutton sheep for retailer and buyer, with Oute-old and Lincoln following closely when not made too fat, while Shropshire and Suffolk are not of first quality in lean meat, and Southdown makes good mutton or lamb, though too heavy feeding will make it too fat to suit most of buyers, and the late Joseph

Harris used to say that a cross of Oute-old on Merino made a first-class mutton sheep. Shropshire on Southdown or its grades might give a well-formed sheep, with lean meat in good proportion to fat, and of the Southdown quality. The Hampshire downs were apparently not represented, yet from specimens we have seen we think they ought to be near the first rank as mutton sheep, being of good form, heavy in hind quarters, broad in the loin and deep in the breast, maturing early and usually being heavy milkers, thus raising good lambs. We think those looking for mutton sheep should not forget to examine the Hampshire.

Secretary Coburn of the Kansas Board of Agriculture is correct in saying that the "Tamworth hogs are a slab-sided, long-legged, big-headed, lardlike, unlovely, red rusty or sandy, half-civilized sort from England. They cut no appreciable figure whatever in the pork production of the United States." But we do not agree with his statement that the small Yorkshire or nearly resemble what Americans have known as Suffolk that an expert is unable to tell one from the other. We think we could distinguish them rods away, if they were as we have seen them. The Suffolk as we know them were almost free from bristles, so that if they had not shade their thin skin would burn in the sun almost as quickly as a baby's, while the Yorkshires are thicker skinned and with heavy thick bristles. We have thought the small Yorkshire might have been originated by crossing a large Yorkshire on the Suffolk or Prince Albert breeds, or it may have been that what the secretary knows as Suffolk had a cross of either Yorkshire or Chester White to give them more bristles and a more vigorous constitution, or perhaps of the Victorians. We speak of the Suffolk as we knew them some 40 years ago, when our father bred them and discarded them because of the sunburned backs even when running in the orchard, and because they were not as vigorous or as prolific as the Chester Whites.

Col. John F. Hobbs gives the following figures in a late number of the National Provisioner: During the year ending March 1, 1900, the Western factories produced 794,000,000 pounds of lard from hogs yielding 2,898,000,000 pounds of green pork. They paid for these hogs in cash the sum of \$312,000,000. The total number of hogs packed during the year was 22,900,831, against 23,851,896 the year before. Their live weight was 5,175,265,000 pounds. They made 3,691,596,000 pounds of meats and lards. At the abattoirs in Chicago, Kansas City, St. Louis and Omaha they killed in the year 3,786,000 cattle, costing \$170,000,000, which, at an average of 700 pounds each would make 2,640,200,000 pounds of beef. To this must be added the amount killed at St. Joseph and other Western packing points, and the cattle and hogs killed by farmers and country butchers, of which no record is kept.

Michigan Beet Sugar. The Supreme Court decision invalidating the beet sugar bounty law of 1897 does not vacate existing contracts between farmers and beet sugar factory owners, and does not confiscate the ground on which the beets are grown.

The Legislature of 1897, acting in good faith, passed the law to encourage the up-building of the beet sugar industry in this State. Whether the bill was supported by interested parties or otherwise, the fact remains that the bill was favorably reported, passed by the Legislature, and signed by Governor Pingree in the interest of the farmers. It was not anticipated that the industry would assume gigantic proportions in two years, and for a gratuity of nearly \$400,000 in that time at the rate of only one cent a pound for the manufactured product, but it did. The infant of 1897 became a full-fledged adult in two years, and its demands, based on the seven-year law, threatened to absorb the major part of the revenues of the State. The situation presented was not at all inspiring, for it threatened to consume all the taxes of the State.

The Legislature of 1899 perceived that the sugar industry was self supporting, and that body added the appropriation bill so as to raise the question of constitutionality. It does not take any right from any investor's interest, deprive anybody of property, impair the obligation of any contract, destroy competition, uphold a trust, threaten the reward of honest toil, despoil capital of its earning power, curtail the productiveness of the soil, close a market for farm produce or increase the price of sugar, it will be universally commended.

The familiar principles of law spoken of by lawyers as "ultra vires" applies in this case with ninety-nine per cent. of the necessary power to bind the State as a party to the law. The factory owners are entitled to moral sympathy, but not to money subsidy.

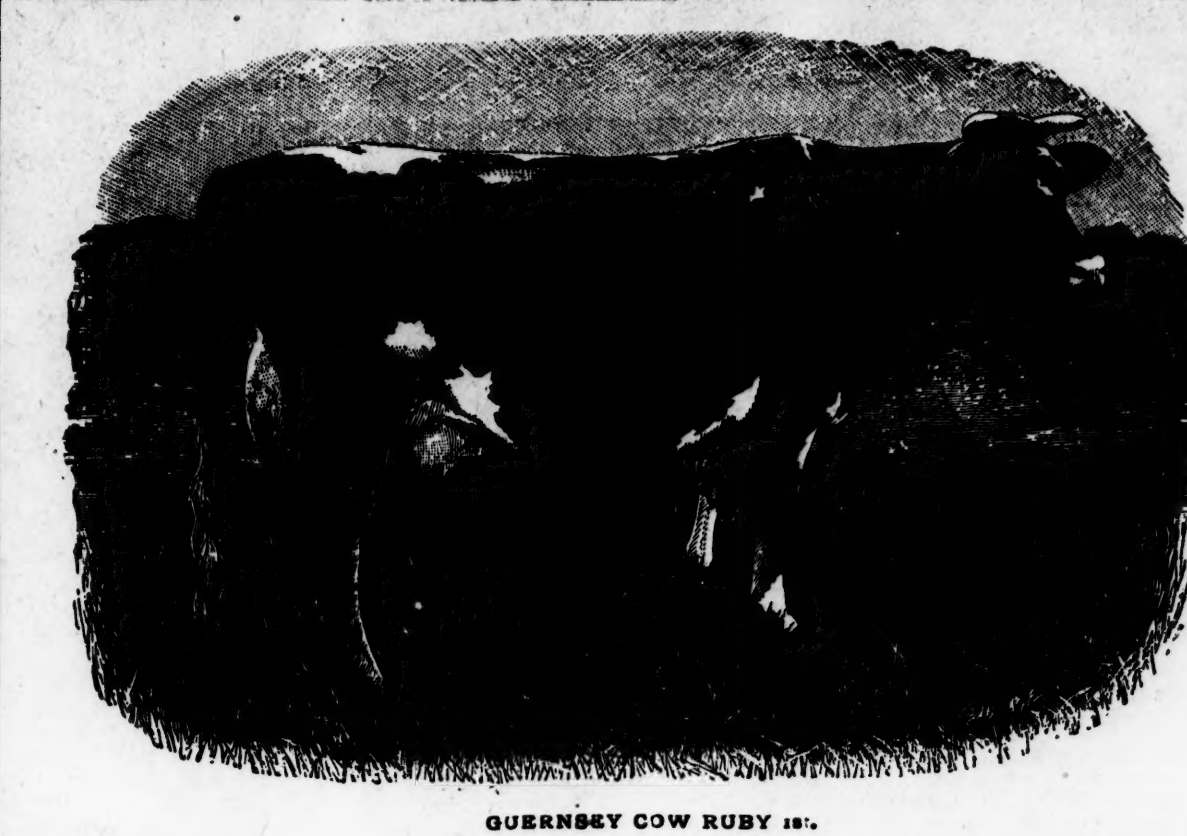
The decision of the court was as strongly

"The Best is the Cheapest."

Experience teaches that good clothes wear longest, good food gives best nutrition, and a good medicine that cures disease is naturally the best and cheapest. Hood's Sarsaparilla is the best medicine money can buy, because it cures when all others fail.

Poor Health—Had poor health for years, pains in shoulders, back and hips, with constant headache, nervousness and no appetite. Used Hood's Sarsaparilla, gained strength and can work hard all day; eat heartily and sleep well. I took it because it helped my husband to whom it gave strength. Mrs. E. J. Giffels, Moose Lake, Minn.

Hood's Sarsaparilla
Never Disappoints
Hood's Pills cure liver illia, the non-irritating and only cathartic to take with Hood's Sarsaparilla.



GUERNSEY COW RUBY 15.

freshened by the decision voiding the Illinois municipal ownership law that nobody anticipated any other result, excepting possibly the factory owners, who hoped that a construction of the constitution would be made in their favor by the vigilant judges of the Supreme Court.—Detroit Journal.

Irrigation in the East.

The Office of Experiment Stations of the United States Department of Agriculture will soon issue Bulletin No. 87, entitled "Irrigation in New Jersey." It was prepared by Prof. E. B. Voorhees of the New Jersey Experiment Station and describes his experiments in irrigation for 1899.

It is generally thought that the necessity for irrigation in the United States exists only in the region west of the Mississippi river, but repeated crop failures in the East have called attention to the importance of controlling the moisture of soils rather than accepting the conditions as they exist. Professor Voorhees estimates the loss to the hay crop of New Jersey from the drought in May and early June, 1899, at \$1,500,000, while small fruits and vegetables were even more seriously affected.

To show the frequency of such droughts as that of 1899, the bulletin cites the rainfall records of Philadelphia: "The rainfall records in Philadelphia from 1826 to 1899, 70 years, show that in 62 per cent of the years there was a deficiency of over one inch for one month, or that in 63 years out of the 70 there was one month in the growing season from April to August in which such a marked deficiency occurred as to cause a serious shortage of crop, and that for the same period there were 30 years in which the deficiency extended throughout two months, while in 21 years it extended throughout three months, or in 30 per cent of the years included in this record there were three months during the growing period in which the average rainfall was deficient one inch or more."

"It is thus observed that a wide series of crops would be likely to suffer in more than one-half of the years for which the record is available, while a still larger number would suffer in nearly one-third of the years, for it must be remembered that even a slight deficiency in one month may result in serious reduction in yield and consequent loss if it occurs at a time when the crop is making its largest development."

The experiments conducted by Professor Voorhees and reported in this bulletin were for the purpose of determining whether irrigation during these short periods of drought would result in sufficient increase of yield to pay for the work necessary to obtain the supply of water. The tests were made on small fruits. Careful records were kept of the yields of plants which received identical treatment, except that some were irrigated and others were not.

The yields of the irrigated plants over and above those not irrigated were as follows: Blackberries, 1088 quarts per acre, worth \$33.43; raspberries, 328 quarts per acre, worth \$33.90; currants, 253 quarts per acre, worth \$36.30. The increase in yield would not be so marked every year as in 1899, as the drought of that year was exceptional.

The bulletin contains detailed descriptions and statements of cost for a number of typical of the whole eastern half of the United States. Judging from the results reported in this bulletin there is no question but that irrigation for fruits and market gardens even in regions of abundant rainfall is a profitable undertaking.

The work in New Jersey is a part of an investigation of the problems of irrigation now being carried on by the office of experiment stations in different regions of the United States. Owing to the greater importance of irrigation in the West, where farming is impossible without its aid, the greater part of the work is being done there, Chocoma, Wyo. being its headquarters. The results in New Jersey show that no agent of agriculture or horticulture is more effective than water, applied when needed, and that the Eastern farmer can well afford to pay more attention to the subject.

Different Feed for the Pigs.

There is no farm animal which will take to a greater variety of food than the pig, and it is possible to starve the creature into eating almost anything on the farm. Nearly all the waste of the farm can be utilized in this way. It is because of this remarkable adaptability to different foods that farmers in the past dropped into the habit of feeding their swill to the swine. It was the easiest way to get rid of the waste, and as the pigs would eat swill as well as sweet, it was easier to collect the slops and keep them indefinitely. Of course the progressive farmer who raises pigs for market today does not feed swill to them. His food is selected with nearly as much care as for the cows and sheep, and the pig shows it all

in ampler girth, sweeter and juicier pork and better ham.

Clover and corn have become standard foods for the pig, and they make a combination that is hard to beat. But it is not always desirable to feed them exclusively on these, and sometimes it may be even necessary to make them of only secondary importance in the scheme of feeding. Corn may not do well on the land, or a bad season may have injured it, and the clover may have run out and the new field failed to catch well. Corn and clover moreover do not contain all of the food elements essential to the growth and development of a pig and other foods are really required to make the ration complete. Clover is good and so is corn, but in addition to these we should have some peas, bran, roots, fruit and milk to give to the animals. These given in the proper proportions are bound to produce excellent results. Barley meal is a food that greatly improves the quality of the pork, and in finishing off pigs for the market there is nothing in the world superior to it. Then the drier root crops keep the systems of the pigs in good condition, add a certain flavor to the pork, and otherwise prove of the greatest value. We certainly cannot neglect the roots any more than we can the clover or corn. Salt, ash and charcoal are also needed to correct any digestive troubles, and to keep the system in proper working condition. Let the food be as varied as possible, and the pigs will respond so readily that in the end we will realize more profits. The motto is to keep them growing constantly, and this can be done by watching their diet daily.

Ohio. E. F. SMITH

The New York Markets.

Generally a plentiful supply of vegetables, but too much pork stock from long being well grown, well assorted or properly handled. This makes prices over a wide range, with often not much at best rates. Long Island potatoes sell well at \$1.50 to \$1.75 a barrel. State and Western at \$1.25 to \$1.63 for 100 pounds. Jersey per barrel \$1.12 to \$1.37 for round and \$1 to \$1.12 for long. Sweet potatoes in light receipt, but with small demand. Vineland \$1.50 to \$2.25 a barrel, and other Jersey \$1.25 to \$1.75. Southern yellow or red \$1 to \$1.25. Onions in moderate supply with fair demand for choice, others dull. Connecticut and Long Island barrels \$3 to \$4 for white, \$1.25 to \$1.50 for yellow or red. Orange County bags, white \$1.50 to \$2, yellow \$1 to \$1.50 and red \$1 to \$2. State and Western per 100 pounds, red or yellow, \$1.25 to \$1.50, white per 100 pounds, \$1.25 to \$1.50. Potatoes per barrel \$1.12 to \$1.37 for round and \$1 to \$1.12 for long. 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POULTRY.

Practical Poultry Points.

Some of the dealers in eggs carefully assort out such as are uniform in size and color, and place them in a separate lot, for which they ask, and easily obtain, a price four or five cents a dozen greater than they do for others that may have come in the same lot and that are equally fresh, and some of them quite as large, though as a lot they are of all sizes and all shades of color. We do not blame them for this, as they know that some of their customers are glad to pay the extra price for the selected uniform lot. What we wonder at is that the producer does not do the assorting when he can, and get the extra price for the fancy eggs. In Boston it is the dark brown eggs that bring the best price, while New York demands a pure white shell. We do not think there is any difference in flavor or nutritive qualities that depends upon or varies with the color of the shell, but if we were in the business of producing eggs for market we would try to have such as the market demanded, even if we had to change from our favorite breed and take up another.

The poultry keeper who is limited to small yards for his fowl seldom succeeds well in buying farm-raised chickens to fill his pens. The unusual confinement seems to be irksome to them. We mean such as are raised where they have free range, which not all have on farms in this section. Each year the number of farmers who keep their hens in yards is increasing, and when we read, as we often do in some Western or Southern papers, of the trouble from the hens scratching vegetable and flower gardens, picking fruit, soiling the feed in the barn and the tools in the shed, and stealing their nests to bring out late chickens when they do not want to care for them, we wonder that any one will keep them who cannot fence them into a yard where they will do no harm. We have known people to let their hens run about the dooryards and roads, and we would about as soon have them there as the hens.

Poultry manure is said to contain 37 pounds of nitrogen, 47 pounds of lime, 41 pounds of phosphoric acid and 24 pounds of potash in a ton, while cow manure has only nine pounds of nitrogen, six pounds of lime, five pounds of phosphoric acid and seven pounds of potash in a ton. One can easily see how much strength would be increased by adding a few barrels of the droppings from the poultry house to a heap of cow manure. But the increase in strength is not all. The cow manure, so much water and so little nitrogen that it decomposes slowly, while the hen manure ferments very rapidly, and needs something to absorb the free nitrogen that results from the process. We know of no better way for the farmer to use the manure from the hen-house than to put it with the cow manure at the rate of about one barrel of the first to a horse load of the other. The improvement in quality and condition of both will well repay the trouble of mixing, as it helps to bring all the elements to a soluble condition.

We have a very favorable opinion of the kafir corn as a poultry feed, although we have never seen it growing or tested the grain for poultry. But the analysis of it shows a good food for growing chickens, and the size of the kernels, scarcely larger than plump wheat, would make it as well adapted to small chickens as cracked corn. Then its habit of growth, the kernels being on the top of the stalk where the tassels in Indian corn, would enable one to cut them off and save the fodder, while a handful of the tops thrown into the henyard would keep hens and chickens busy a long time in scratching it over, throwing it out and picking up the grain, so that they would get the exercise they need and get their dinner only as they earned it. We hope our poultry keeping friends will give it a trial. The kafir corn does not grow as much fodder to the acre as Indian corn, but it is said to be equally good for stock feeding, and perhaps better. We have tried buckwheat and turnip seed as poultry food, letting the hens thresh them out for themselves, and the turnip seed was like giving the children bean-cake. They kept busy and well amused for a long time with out, eating enough to hurt them at all.

We find the following in some of our exchanges without credit to the paper in which it originally appeared, but it is too good a story not to be kept in circulation: "David Hodges of Blodgett's Mills, N. Y., reports that last year he kept 15 White Rock hens and five cows. From the hens he made \$182.24, from the cows \$14.90. The money invested was much greater with the cows than with the hens, and the feed for the cows cost the most. In figuring the above he did not count what was used in the family or on the farm. This year he will go heavier in poultry and keep fewer cows. He says he will build new houses and give his fowls more care, and he will keep a correct record of expenses as well as income. It would be well if more farmers kept a record of their poultry. They would soon pay more attention to the poultry business."

At the Canadian Central Experiment Farm, they tested the laying qualities of old hens, young hens and pullets from Dec. 1 to June 30, with the following results: Of hens three years old or more, 13 white Leghorns produced 591 eggs, 453 eggs each as an average; 10 Barred Plymouth Rocks, 555 eggs, or 55.5 each; seven Golden Bantams, 524 eggs, or 48 each, and seven Black Minorcas, 493 eggs, or nearly 70 each. Average for the old hens about 51 eggs each. For hens one year old 11 White Leghorns gave 611 eggs and 11 B. P. Rocks 558 eggs an average for yearling hens of about 53 eggs each. For pullets 8 B. P. Rocks hatched April 30 and May 24 gave 700 eggs, 8 W. Leghorns, hatched June 11, 605 eggs; 8 W. P. Rocks, April 25 and May 9, 560 eggs; 8 B. Leghorns, May 17, 538 eggs; 8 B. Minorcas, May 9 and 26, 453 eggs; 8 B. Lanchans, May and early June, 339 eggs. This is about an average of 66 eggs for the 48 pullets, with the B. P. Rocks at the head, with an average of 87 eggs each, though not hatched earlier than the Leghorns or as early as W. P. Rocks. The pullets ate more food than the old hens, as the latter got too fat if given the same amount. Eggs from old hens were four ounces heavier to the dozen than those from pullets for the W. Leghorns, and five ounces on the others. They reached the following conclusions from the test:

1. The pullets laid more eggs than either old or yearling hens, except in the case of seven old Black Minorcas, where the yearling was larger, and, in consequence, worth more.
2. The eggs of the older hens were larger, and, in consequence, worth more.
3. The laying of more eggs by the seven Black Minorcas old hens than by eight pullets of the same breed goes to show that the conclusion that the hens of the Mediterranean class are good layers up to three

years of age, inclusive, is warranted in this case.

4. If eggs were sold by weight, the larger eggs of the older hens would be most in demand.

5. The late May and middle of June hatched Lanchan pullets did not lay half as many eggs as the same number of earlier hatched Barred Plymouth Rock pullets.

There can be but one deduction, and that is to have the pullets of the Asiatic and American breeds hatched as early as possible.

The Farm Poultry.

Although many make a specialty of poultry, and devote their time exclusively to the birds, I feel convinced that the farm is the proper place for poultry raising, and that more can be accomplished in this way than on poultry places where nothing else is attempted. The latter is like putting all your eggs in one basket, while the former is like throwing a sheet anchor to the wind, for a violent gale. Some day the poultry will fall out, and then if we are depending upon them exclusively we become bankrupt. But the farmer who raises enough food for his own table has a few pigs for market, a few cows for milk and butter, and a horse to do general work, with hay and corn to feed him on, is not totally at when a bad season for poultry or meat comes. He can weather the storm, and if he owns his own farm he is not likely to abandon the work simply because one season has proved disastrous.

More than this, the farm seems to be the natural place for the poultry because every crop we raise contributes directly or indirectly to their support. You cannot raise corn or hay for the cattle or horses without producing a large amount of waste product which the hens alone can eat and profit thereby. The seeds of the grass, the waste of the cornfield, and the broken heads of wheat and oats are all appropriated by the hens. The milk which the cows give also provides food for the poultry. The sour milk or the buttermilk mixed with bread crumbs and scraps from the table are excellent for the chickens. The cows thus furnish distinct food for the poultry that would otherwise be wasted.

Then again the orchard and garden furnish illimitable supplies for the poultry, and mostly in the form of waste products; that is, all the waste parts of fruit and vegetables can be fed to the fowls in one form or another. I have yet to find anything from garden or orchard that cannot be fed profitably to the chickens either in the green natural form or cooked and mixed with other food. Fruits and vegetables are sure to attract worms, bugs and insects all of which the poultry need and relish. None or very few of these things can be raised on the poultry farm that is distinct from a farm, and is intended for poultry alone. The farm is the place for the poultry, and one possessing such a plant is in a fair way to increase the profits on poultry much better than another who starts in with a poultry plant built primarily for this and no other purpose.

Pennsylvania. ANNIE C. WEBSTER.

Poultry and Game.

The market is well supplied, and the quality must be extra to bring top quotations, while Western stock is dull and weak. In fresh killed Northern and Eastern chickens choice large bring 14 to 15 cents, and fair to good 9 to 13 cents. Fowl are 12 cents for choice and 9 to 11 cents for fair to good. Spring ducks are 10 to 12 cents, geese 14 to 15 cents, and turkeys from 18 cents for choice large young and 15 to 17 cents for medium, down to 12 to 14 cents for fair to ordinary lots. Pigeons steady at \$1 to \$1.25 a dozen, but squabs higher at \$2 to \$3.50. Western food chickens are 10 to 10 1/2 cents for choice large roasters and two pound broilers, but medium lots go at 8 to 9 cents. Fowl are 10 cents for choice and 8 to 9 cents for common to good. Turkeys generally dull at 10 to 11 cents for average lots. A few large young ones bring 13 to 15 cents, and common are 8 to 10 cents. Old roosters 7 cents and ducks 5 to 6 cents. Small demand for live poultry at 8 to 9 cents for chicken or fowl, and 5 to 6 cents for old roosters.

There is a better assortment of game now but trade is light. Chickens grown \$1.25 to \$1.50 a pair and quail \$2.50 to \$3 a dozen. Canvas back ducks \$2.50 a pair, red head \$1.50 to \$2, black ducks \$1 to \$1.25, brant \$1.50 and wildgeese 75 cents, with plover at \$3 to \$3.50 a dozen and snipe \$2 to \$2.50. Road birds 25 cents. Venison is in good sale at 15 cents a pound whole, with saddle at 20 to 25 cents. Rabbits 10 to 12 cents each.

The shipments of leather from Boston for the last week amounted in value to \$198,442; previous week \$244,718; similar week last year \$175,891. The total value of exports of leather from this port since Jan. 1 is \$8,108,846, against \$7,429,154 in 1899.



The old proverb, "To be at peace prepare for war," is the secret of the larger part of life's successes, whether of nations or individuals.

The difference between the healthy, happy mother who has healthy children, to nurse and nourish, and the weak, nervous mother, with a weakling child, is mostly a difference of preparation.

The great preparative for motherhood is Dr. Pierce's Favorite Prescription. It tranquilizes the nerves, encourages the appetite and induces refreshing sleep. It gives the mother strength to give her child. It imparts elasticity and strength to the organs of maternity so that the baby's advent is practically painless.

"I take pleasure in writing you to let you know about your 'Favorite Prescription,' says Mr. E. E. Fricke, of Petersburg, Menard Co., Ill. Box 357. 'My wife had been sick nearly all the time after I was born, and I could think of made up my mind to try 'Favorite Prescription.' I sent it to Chicago and got six bottles, which she took a tablespoonful three times a day, until the baby came. She felt better after taking the first bottle, and when baby was born he weighed nine and a half pounds. To-day he is six months old and weighs twenty-two pounds. He is a good child as any one could wish. The doctor says he is as healthy as any baby could be, and also the doctor says your 'Favorite Prescription' was the cause of such a healthy baby. I felt I owed you this much for the good you did my wife and myself. I hope you will mention this to others who may be in need of such help, and you may refer them to me, as I would be glad to tell of the good of such a valuable medicine."

Dr. Pierce's Common Sense Medical Adviser, in paper covers, is sent free on receipt of 21 one-cent stamps to pay expense of mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.



SCOTTISH TERRIER.
Owned by Newcastle Kennels, Brookline, Mass.

HORTICULTURAL.

Orchard and Garden.

There is a strong probability that the exhibit of American apples at the Paris Exposition will result in a large increase in the demand for them from continental Europe, as it attracted much attention and wonderment that fruit could be sent so far and kept so long in such perfect condition. While there may not be much increase in our sales to those countries this year, because fruit crops are reported as unusually good in most of them, they do not usually grow enough to allow as free use of fruit there as is the rule in this country, but future years may see large sales. We see no prospect of our market being overstocked with apples for a generation to come, and think a man will run no risk of loss if he sets an orchard now, if he selects proper soil and good varieties and gives them good care. And more than that we think that the knowledge that has come to us from scientific investigations in regard to the pollenization of fruits, and the methods of combating insects and fungous diseases, there never was a time when the prospects looked brighter for the careful, painstaking orchardist. He will come nearer having a sure crop and a sure market at good prices than were those who set trees in years past.

It is said that a large percentage of the cabbage and cauliflower raised in the United States is grown upon Long Island, where some men have followed it as a business until they have reduced it to a science. The cabbages are grown the first year under good cultivation to produce merchantable heads. Those intended for seed, which are the best they find, are stored for the winter in well-ventilated trenches, where they may freeze but not rot. Early in the spring the heads are gathered and set out, and they receive as good cultivation as the year before. When the stalks are gathered they are put in some good place to dry and the seed is thoroughly cleaned. The growers receive 30 to 50 cents a pound for the crop in a good season, as some varieties do not produce as much seed as others. One grower is said to have about a ton this year worth from \$800 to \$1000, which is a very pretty load of produce to take to market, worth about as much as 70 tons of hay, 1300 bushels of wheat or 1600 bushels of potatoes at present prices.

A correspondent of Farmer's Advance says he set his strawberry plants three to four feet apart in the row, with orange plants between each two strawberry plants, and thus gets a good crop of cabbages, which does not prevent the strawberries from making a thick mat over the row before the next spring. This takes but about 3000 plants to the acre. This year he had strawberry rows four feet eight inches apart, and plants four feet apart in the row, and has rows of early cabbages and cauliflower between the strawberry rows, while between the strawberry plants he set Friesian and Gibraltar onions. All these crops require close cultivation and liberal manuring, which fits the land for the strawberry runners, and they are out of the way in season to allow the runners to make a matted row. Perhaps this is as good a plan as any for those who set strawberry plants in the spring, as it gives them an indorsement to keep the land clean and well worked, and the use of it is not entirely lost the first year, but other crops might be used instead of those named if desired.

While the Gandy has attained a high reputation as a very late strawberry, prolific and a handsome fruit, there are two others to be offered next spring which are said by those who have tested them to be quite as late, and to produce equally as fine fruit, while they showed this year a wonderful power to resist drought and extreme heat at fruiting time. There is a demand for a late strawberry to prolong the season, and these varieties, known as the Robbie and Nettie, may prove just what is needed, as the Gandy did not bear the drought well this year excepting on very rich and rich soil.

The strawberry has a good reputation for giving quick returns for the expense of preparing the soil and setting plants, but the blackberry and raspberry are nearly as prompt. They have an advantage on the farm, that more of the work in caring for them can be done by the horse, as the rows would be far apart enough to allow the cultivator to be used between them, and where one is situated so that he cannot hire cheap help to pick the berries, it is a satisfaction that it is not as stooping work as in the strawberry bed. Caring for a row of blackberries and raspberries is hard on a back that has borne the burdens of 30 or 40 years of hard work. If we were on a farm we should try to grow strawberries enough for home use, but as a crop for market we prefer the blackberry, raspberry or currant, and think they are as profitable compared to the labor of growing and picking them. When well set and well cared for they are almost a permanent investment. They need to have old wood cut out, and to be pruned from making too much new wood, which requires some care, but not much hard labor.

When one has but little land, such as is provided by a village lot, there can be but little space devoted to a garden, and it often

costs as much or more to cultivate such a plot than the vegetables that can be grown on it would cost in the market, if one had to pay for the labor at a fair price. They cannot be worked with a horse because of the small size, and the expense of digging, hoeing and other work by hand is too great to allow of any profit from the crop. Of course the clerk or mechanic who has leisure hours and strength to do this work can obtain fresh vegetables of his own growing much better than he can buy, if he is under and raising them, but if he has to pay for the labor, he had usually better contract with some successful gardener to supply him. But for a farmer to use such small plots for a garden is folly. Let him so plan as to have a large enough to work with a horse, and then if he can produce a surplus, sell it at market rates and add to his income.

Domestic and Foreign Fruits.

With receipts of apples amounting to more than 55,000 barrels in this market, the exporting of over 40,000 barrels has not increased the prices greatly, though choice table and export fruit is firm. Choice, well colored Gravensteins bring \$2.50 to \$3.50 and Nova Scotia from \$1.75 to \$2.25. King, Wealthy and Ben from \$1.50 to \$1.75. Snow and Snow from \$1.50 to \$2.00. Alexander \$2.50 to \$3.25. Twenty Ounce \$1.50 to \$2.25. Harvey \$1.50 to \$1.75. Hubbardston \$1.25 to \$1.75. N. 1 Baldwin and Greening \$1.25 to \$1.50. Pippins \$1 to \$1.50 and Pound Sweet \$1.50 to \$2. There is fair call for choice fall sorts at \$1.50 to \$2, but common green sorts sell hard at 50 cents to \$1. Pears are in good supply with light demand. Some choice large Bartlett bring \$2 to \$2.25 a bushel, with fair to good at \$1.50 to \$1.75. Bosc and Bosc from \$1.50 to \$2.00 and ordinary sorts 25 cents to \$1. Quinces plenty, but variable in quality from \$1.50 to \$2 a barrel.

Grapes in large supply and many out of condition. Pony baskets 12 to 14 cents for Delaware, 8 to 12 cents for Niagara, 8 to 10 cents for Salem, 6 to 9 cents for Catawba and 5 to 8 cents for Concord, or 12 to 17 cents for large baskets. California Tokays dull at \$3 to \$3.50 for four-bushel carriers, with Cornish and Verdelais \$2 to \$2.25. A fair supply of Alameda at \$7 to \$7.50 a cask. Cranberries steady at \$5 to \$5.50 a barrel for choice dark, \$4 to \$4.50 for medium and boxes from \$1.25 to \$1.75.

Florida oranges in limited supply as yet, and brought good to choice bring \$3.50 to \$4, with russet at \$3.25 to \$3.75, barrels at \$7 to \$7.50. Jamaicas coming slowly at \$7.75 to \$7.25 a barrel; boxes of 175, 200 or 215 casks \$3.75. Some Jamaicas grape fruit at \$4.50 to \$5 a box. Lemons are a little easier. Messina and Palermo 350, 420 or 500 casks as to quality \$1.75 to \$2.50 a box, Sorrento and Maoli from \$3 to \$3.50 for good to choice, up to \$5.50 or \$6.50 for fancy and extra fancy. Bananas in fair demand at \$1.50 to \$2.50 a stem, as to size and quality. California figs in demand at 85 cents to \$1 for 10-pound cartons. Turkish figs 9 to 15 cents a pound. Bag figs \$1 to \$1.50. Dates in jobbers' hands at \$4 to \$4.50 a box.

Vegetables in Boston Market.

The vegetable supply and demand are so nearly balanced that there are but a few changes this week, and there is a fair trade, steady rather than brisk. Farmers are cleaning up their fall produce and prefer to sell at present rates rather than hold on for possible higher prices later on. We find beets and carrots steady at 40 to 50 cents a box; flat turnips higher at 25 to 35 cents, while white French are lower at \$1.25 a barrel and so are yellow at 90 cents to \$1. Native yellow onions are dull and weak at \$1.25 to \$1.50 a barrel or 50 cents a bushel, with York State at 40 to 45 cents. Spanish are \$1.25 to \$1.35 a crate. White onions from \$2 to \$4 a box, as to quality. Leak are 40 cents a dozen and chives 75 cents to \$1. Radishes from 40 to 75 cents a box. Cucumbers firm at \$5 to \$6 per hundred, and green peppers 75 cents a bushel. Some out-of-door-grown tomatoes from 75 cents to \$1.50 a bushel, and hot-house firm at 15 cents a pound. A call for green tomatoes has sent them up to 60 or 75 cents a box. Celery 40 to 75 cents a dozen for early flat-topped and 75 cents to \$1 for late. Squashes in more demand at 80 to 75 cents a barrel for Marrow, \$1 for Turban and Bay State, and Hubbard \$14 to \$15 per ton for the best, with some lots as low as \$10 to \$13. Artichokes \$1 to \$1.50 a bushel.

Cabbages are in full supply at \$2 to \$3 per hundred or 80 to 60 cents a barrel. Sprouts 12 to 15 cents per quart. Cauliflowers 60 cents to \$1 a dozen. Lettuce from the hot-houses \$1 to \$1.25 a long box. Spinnery easy at 20 to 30 cents a box, and endive \$1 to \$1.25 a box. Egg plants coming of earlier size at \$1 to \$1.25 a box. Parsley quiet at 20 to 25 cents. String beans green or wax at \$1.50 to \$2 a basket. Large Lima \$2.25 a bushel, and Silesia \$2, nearly out of market.

Potatoes are in liberal receipt, but the demand is good, and the market steady on prime roots. Aroostook Green Mountain bring 65 to 80 cents a bushel, Hopedale 58 cents for extra and 55 cents for good. York State in only moderate demand at 50 to 55 cents for round and 45 to 50 cents for long. Sweet in good supply and sell slowly. Double head barrels Jersey are \$1.50 to \$1.75 and \$1.50 in bulk. Norfolk and Eastern shore \$1.25 to \$1.37.

Export Apple Trade.

Shipments of apples for the week ending Oct. 27 included from Boston 40,841 barrels. New York 14,064, Montreal 34,381, Halifax 16,264, Annapolis, N. S., 7660, a total of 112,749 barrels. Of these 55,818 barrels went to Liverpool, 23,380 to London, 23,887 to Glasgow and 4104 to various other ports. Totals since the season opened have been: From Boston 107,984 barrels, from New York 108,600, from Montreal 141,780, from Halifax 55,484, from Annapolis, N. S., 15,560; total 494,724.

Charles A. Lawrence of Faneuil Hall Market receives advices from Liverpool under date of Oct. 20 that market is in good shape for fruit of good quality. Much of Canadian in fairly condition. Greenings and Snows lower because of "spots." Kings and Baldwins when good selling readily. New York shipments have been disappointing. Baldwins dull and unattractive. Newtowns scarce and not first class. Maine and Boston Baldwins show some excellent samples, and the demand for sound, well-colored fruit is keen. A few lots very poor that should not have been sent. First arrivals of Nova Scotia Gravensteins lack color.

Quotations for tight No. 1 Baldwins, Boston \$3.12 to \$4.05, Maine \$3.45 to \$4.55, New York \$3 to \$4.20, Canadian \$3.35 to \$4.20, Newtown Pippins \$4.05 to \$4.05, Nova Scotia Gravensteins \$3.50 to \$3.77, Canadian Greenings \$3.12 to \$4.05, Snows \$3.95 to \$5.25, Kings \$4.32 to \$5.53, Ribston and Blenheim \$3.35 to \$4.05. Fallwaters \$3.24 to \$4.44. Snacks and second from as low as \$1.88 for some of the Boston Baldwins to \$4.86 for some Newtown Pippins, Snows and Kings. There are the two extremes, with all prices between.

From shipments of Oct. 30 we find the following prices: Hingham and Glasgow \$3.40 to \$3.50, Greenings \$3.15 to \$3.40, B. Davis \$3.16 to \$3.30, common Newtowns \$3.40 to \$4.37, Albemarle Newtowns \$4.86 to \$6.31. At London, Baldwins \$3.89 to \$4.13, Newtown Pippins \$4.37 to \$4.86. At Liverpool, Baldwins \$2.67 to \$3.40, Newtown Pippins \$3.64 to \$4.86, Greenings \$2.67 to \$3.16, York Imperial \$2.91 to \$3.40, Winesap \$2.79 to \$3.16, Albemarle Newtowns \$3.16 to \$4.13, cabram to C. B. Lawrence Oct. 31, from Liverpool reports: "The market is active; prices steady. Boston Baldwins \$3.43 to \$3.25, Maine Baldwins \$2.79 to \$3.64."

The total shipments of boots and shoes from Boston this week have been 55,585 cases, against 56,748 cases last week; corresponding period last year, 58,888. The total shipments thus far in 1900 have been 2,502,967 cases against 2,589,789 cases in 1899.

The ex from the port of Boston for the week ending Oct. 27, 1900, included 31,066 pounds butter and 38,541 pounds cheese. For the same week last year the exports included 7028 pounds butter and 65,816 pounds cheese.

Traffic makes the exports from the Atlantic Coast last week of wheat 228,000 bushels of corn, 4480 barrels of pork, 5,456,000 pounds of lard, 14,386 boxes of meat.

The exports from Boston for the week ending Oct. 26 were valued at \$3,088,416, and the imports at \$1,049,887. Excess of exports \$1,968,196. For the corresponding week last year exports were \$3,199,436, and imports were \$1,190,028. Excess of exports \$1,969,564. Since Jan. 1 exports have been 997,068,416, imports have been 658,680,808. Excess of exports \$338,735,608. For the corresponding time last year exports were \$1,066,280,376, and imports were \$51,608,137. Excess of exports \$547,712,239.

The visible supply of grain in the United States and Canada on Oct. 27 included 59,778,000 bushels of wheat, 1,444,000 bushels of corn, 12,586,000 bushels of oats, 1,050,000 bushels of rye and 5,065,000 bushels of barley. Compared with the week previous, this shows an increase of 1,460,000 bushels of wheat, 228,000 bushels of corn, 83,000 bushels of rye, 473,000 bushels of barley and a decrease of 770,000 bushels of corn. The supply Oct. 26, 1899, was 49,569,000 bushels of wheat, 1,171,000 bushels of corn, 9,913,000 bushels of oats, 1,098,000 bushels of rye, 3,876,000 bushels of barley.

The world's shipment of grain last week included 8,123,978 bushels of wheat from five countries and 2,858,651 bushels of corn from four countries. Of this the United States furnished 4,957,978 bushels of wheat and 1,858,651 bushels of corn.

The shipments of live stock and dressed beef last week included 2184 cattle, 1600 sheep, 7445 quarters of beef from Boston; 11997 cattle, 1245 quarters of beef from New York; 1063 cattle from Baltimore; 647 cattle from New York; 978 cattle from Newport News; 1754 cattle, 336 sheep, from Montreal; a total of 8683 cattle, 3177 sheep, 56,397 quarters of beef from all ports. Of these 4581 cattle, 236 sheep, 11,880 quarters of beef went to London; 3312 cattle, 1676 sheep, 19,489 quarters of beef to Liverpool; 688 cattle to Glasgow, 370 cattle to Bristol; 1388 quarters of beef to Southampton; 23 cattle, 176 sheep to Bermuda and West India.

It is reported that the Chesapeake & Ohio will build at a cost of \$3,000,000 20 five-masted steamers to carry coal to foreign points from Norfolk and Newport News.

The census bureau announces the population of the United States in 1900 as 76,896,530, an increase of 13,235,464 or nearly 21 per cent, since 1890.

After buying hundreds of horses in California for military operations in China, Germany has now decided not to send them. In the meantime the horses have broken out and the horses are dying.

In proportion to the number there has been

greater mortality among guides and hunting companions in the woods of Maine and the Adirondacks this year than there has been upon the world's battlefields.

The egg market continues fairly steady. Heavy and Cape Henry fresh are scarce and best bring 25 to 30 cents, with some at 35 cents, and Eastern or Northern or o's fresh 22 to 24 cents and fair to good 17 to 20 cents. Fancy Western fresh 19 1/2 to 20 cents, selected fresh 18 1/2 to 19 cents and fair to good 16 to 19 cents. Bales from cold storage 17 to 17 1/2 cents. The stock in cold storage is 114,776 cases, against 118,061 last week and 106,481 a year ago.

Exports wheat and flour since July 1 are 50,244,148, against 65,391,543 last year and 69,739,107 in 1899, or a positive decrease of 15,147,395, or 23 per cent. Exports of corn are 63,460,348, against 69,979,978 last year and 64,764,516 in 1899, being 16 1/2 per cent less under 1899, and 8 1/2 millions over 1898.

The Bureau of Agriculture estimates that the United States crop of wheat against 271,500,000 last year, or 48,000,000 decrease.

The supply of lambs and mutton is full, and the market rather under a dull trade; spring lambs 6 1/2 to 7 1/2 cents, Brightons 6 1/2 to 7 1/2 cents, yearlings 6 to 7 cents, mutton 6 1/2 to 7 1/2 cents, fancy and Brightons 7 to 8 cents, wethers 6 to 7 cents, fancy Brightons 9 to 10 cents.

Exports of general merchandise from the ports of New York for the week ending Oct. 30 are valued at \$11,006,777, against \$10,698,149 last week and \$9,423,688 for corresponding week last year. Since Jan. 1, 1899, \$497,018, against \$384,174,228 last year, or \$22,842,794 more.

Very quiet in the bond trade. Quotations are unchanged nominally: Fancy sides 9 cents, choice 8 1/2 to 9 cents, good 7 1/2 to 8 cents, light and grass 7 to 8 cents, cows 6 1/2 to 7 cents, heavy hinds 11 cents, extra 10 1/2 cents, good 9 1/2 to 10 1/2 cents, fancy 7 1/2 to 8 1/2 cents, light 5 1/2 to 6 1/2 cents, backs 6 to 6 1/2 cents, rations 5 1/2 to 6 cents, chunks 7 1/2 to 8 cents, rounds 7 to 8 1/2 cents, rumps 9 to 10 cents, and loins 10 to 14 cents, loins 12 to 15 cents.

The game laws are being evaded in the West by sending birds through the mail or else in cheese-boxes. The cork market is quiet and unchaned. Long cut \$18.50, short cut and backs \$17.25, medium \$16.50, lean end \$9.50, heavy pork \$14, fresh rib 10 cents, corned shoulders 5 cents, fresh shoulders 8 cents, smoked shoulders 8 1/2 cents, lard 8 1/2 cents, in pairs 9 1/2 to 9 3/4 cents, hams to 12 cents, skinned hams 11 1/2 cents, sausage 9 1/2 cents, frankfurters sausage 9 cents, bottled hams 15 to 16 1/2 cents, bottled shoulders 12 cents, bacon 13 1/2 to 14 cents, Bologna 6 cents, pressed ham 15 cents, raw leaf 9 1/2 cents, rendered leaf 9 cents, in pairs 9 1/2 to 10 cents, pork tongues 8 1/2 cents, salt pork 5 1/2 cents, briscons 10 cents, sausage meat 8 to 8 1/2 cents, city dressed hog 7 1/2 cents, country dressed 6 cents.

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THE BUSINESS HEN

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A condensed practical encyclopedia of profitable poultry-keeping. By B. F. Graves, poultry expert. H. Jacobs, Henry Hall, James Rankin, J. H. Drew, and others. Fully illustrated with

If marriage is a lottery Count Boni seems

standing at the Symphonies seems a step in the wrong direction. Of the many students of music who come to Boston, it goes without saying that a very small number can

The young man who has made a study of horticulture as a science is not infrequently called upon to give advice to those who have been for years engaged in the business, but who find problems arising that they have not been called upon before to solve, in all their years of experience.

It is so in every one of the many branches of agriculture to make up the successful farmer. It is not given to one man to know it all.

The other countries of North and South America will bring up the wheat crop of the Western hemisphere to something like 70,000,000 bushels. Last year the figures were 736,748,880 bushels.

Asia's yield of wheat will be about a third of America's total, while Africa's yield will be small—about 45,000,000 bushels. Australia's yield this year will be about the same as last year, which was over 58,000,000. This will make the probable total yield of wheat in the world 2,450,504,000 bushels.

The experts say that, speaking roughly, one pound of nut kernels furnishes one-half as much muscle-making stuff and about the same amount of fuel as one pound of whey; or some time on English walnuts, which contain 66 per cent. of fat, 16 per cent. of starch and 17 per cent. of "protein." They

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THE HORSE.

Sources of Trotting Speed.

It is amusing to note to what lengths the racing theorists will go to try to prove that the pacer is the only factor which produces trotting speed. It would be just as reasonable to claim that the cold-blooded, slow-moving cart horse is the only source of extreme speed. The enthusiastic racing theorist argues that Rydyk's Hambletonian owes his unparalleled success as a perpetrator of trotting speed to his fourth dam, Jin Black. His argument is something after this style: Pilot Jr. was a successful sire of trotting speed. He was got by old pacer Pilot. Blue Ball was a pacer, and was a successful trotting sire. Rydyk's Hambletonian was a successful sire of trotting speed, hence some of his ancestors must have been pacers. None of his ancestors since Jin Black were pacers, hence Hambletonian must have derived his pacer inheritance from that mare. Clear, isn't it?

None but the most enthusiastic stone blind racing theorist would attempt to weave so slender and brittle a thread into the racing web. Now Jin Black had all the characteristics of the thoroughbred. No one who knew this mare has intimated that she ever paced a step in her life. Had she been a pacer she would undoubtedly have been used for saddle purposes. She was naturally well and termed high strung. She was so noted for this quality that she was balky when young and considered of but little value. Dr. Townsend Seely described her as follows:

About the year 1800 my father traded with George Deanman and got a mare called Jin Black, with large bold face and two white feet. She was large with strong, clean limbs. Why father came to get her was because she was so spirited and balky that Deanman could not make her work. Father broke her to be kind in every way, but had to get an extra strong set of iron traces (the only ones used at that time) to prevent her breaking them every day, and then had no trouble with her. I have ridden her before once many a day to pick among stumps and stones. From the character of Jin you may infer that Silvertail (the third dam of Rydyk's Hambletonian) got a very good start in the dam's side.

It remained for L. E. Clement, who discovered that daughters of Rydyk's Hambletonian were failures as producers of trotters, to make the late discovery that this Jin Black was a pacer. The discovery was a remarkable one if true. No one else had ever intimated that such was the case. Mr. Clement is entitled to all the credit. Even Mr. J. H. Wallace, one of the strongest of racing partisans, did not have the audacity to make such a claim. It must have been revealed to Mr. Clement through inspiration, or was more probably the product of imagination, and a badly demoralized imagination at that.

Jin Black was a wonderfully powerful mare. No one has ever made her origin public. Those who knew her and handled her never claimed that she paced. It is probable that no one besides Mr. Clement ever dreamed that she paced. Had she been a pacer, Dr. Townsend would undoubtedly have mentioned the fact. It must be a weak theory, truly, that needs bolstering with such a claim at this late day.

But Jin Black is not the only mare that did not pace which Mr. Clement has recently converted (by his pen) to the pacer's gait. Just read what he says:

You can take any line of pacer blood and add nothing to it but developed harness speed from that or any other pacer blood, and as the cumulation increases the speed also shows up intensified, and will reproduce itself in more speed. We have discovered that we get speed at the harness gait from the pacer and from other sources; that we had it in Amasa, in the Mounson Mare, in Black Jin, in the dam of Goliath, the Singleton Mare, in Young Bashaw, in North American, or the Sullock Horse, and as we add to it we have Hambletonian, Mambrino Chief, the Clara, the Sprague and the Black Hawk.

Amazilia, the dam of old Abdullah, a pacer! Who else but Mr. Clement could have dreamed it? All the old, reliable horsemen who remembered her stated that, though a very homely animal, she was a trotter of the highest type, a road mare of great distinction, many said without an equal in her day. According to the racing theorists, all trotting speed comes from the pacer. Amazilia was a fast trotter, hence she must have come from pacer ancestors. That's plain. It is easy, in fact, simple. Just a little too simple, or shallow, for any well informed student of the trotting breeding problem, who has made the source of speed a study, to believe.

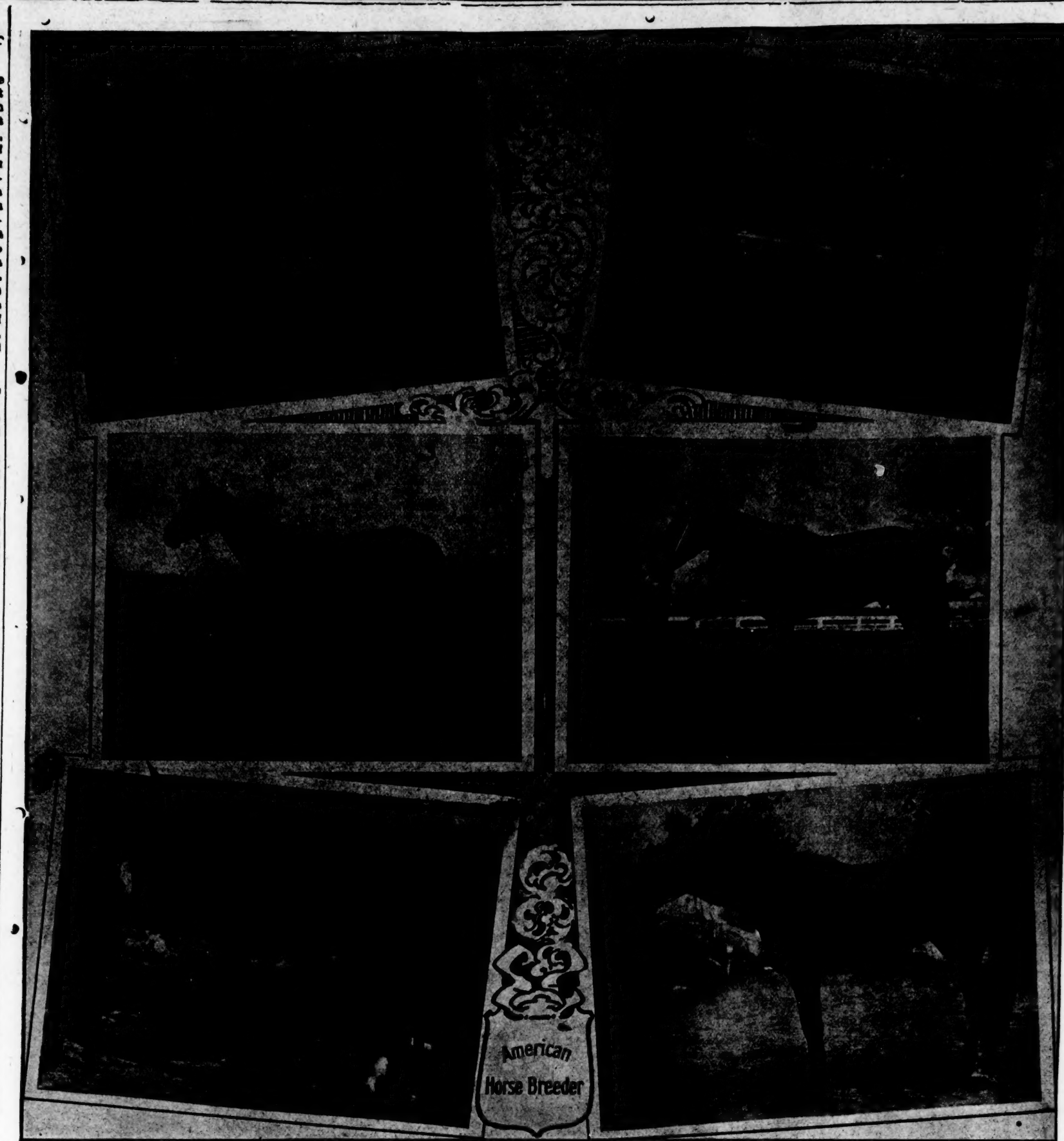
This writer says you can "take any line of pacer blood and add nothing to it but developed harness speed from that or any other pacer blood, and as the cumulation increases the speed also shows up intensified and will reproduce itself in more speed." It is more absurd statement than that in regard to trotting speed ever got into print it has escaped our notice.

It is evident that the author of the above absurd claim is so utterly blinded by his pet theory that he cannot comprehend or will not understand the valuable lessons taught by those infallible guides and greatest of all impartial educators, the Great Table and the Trotting Registers. According to that theory Woodburn Pilot should have been the greatest sire of his day. His sons should have transmitted extreme trotting speed with greater uniformity than those of any other sire. (He was got by Pilot Jr., a son of old pacer Pilot. His dam was by Mambrino Chief, and his second dam was by the pacer Red Fox. Here is a case where the "cumulation increases." What did it enable this stallion closely inbred to pacer blood, aided by the Mambrino Chief cross right from the fountain head, to accomplish in the way of perpetuating trotting speed?

Turn to the Year Book and see for yourselves. It shows that he got in all two trotters with standard records, viz.: Woodburn Boy (2:27) and Vladimir (2:24). It shows that two of his sons, Argonaut and the Hatch Horse, have sired in all a total of six that have made records in standard time. It shows that his daughters have produced a total of four trotters with records from 2:27 to 2:22, and one pacer with a record of 2:20.

Now let us look a little farther and see to what extent this increase of accumulation of the pacer element in Woodburn Pilot enabled his descendants to transmit or perpetuate trotting speed in the second generation. Argonaut is credited with one son, Pilot Champion, that has sired standard speed and he has got out a single performer. No son of the Hatch Horse has ever sired a standard performer. Taking the next generation we find that one son of Pilot Champion, Harry Hoyer, has sired one pacer that took a standard record seven years ago. The speed-perpetuating or transmitting power of Woodburn Pilot petered out with Harry Hoyer.

Tattler, out of a strictly running bred mare, has proved the most successful son of Pilot Jr. so far as breeding on is concerned. Those who advocate "cumulative pacer



SOME GOOD PERFORMERS OF THE PAST SEASON.

- 1 CORNELIA BELLE, 2:11 3/4, by Onward, 2:15 1/4.
 2 CONSUELLA B., 2:13 1/4, by Directum, 2:05 1/4.
 3 LACONDA (p.), 2:16 1/4, by Allerton, 2:09 1/4.
 4 YORK BOY, 2:09 1/4, by Wilkes Boy, 2:24 1/4.
 5 GAMBOY (p.), 2:08 1/4, by Gambrel, 2:10 1/4.
 6 DARK WILKES (p.), 2:12 3/4, by Dark Night.

blood" have mentioned Bayard as the greatest son of Pilot Jr. Let us turn to the Year Book and see how he compares with Tattler as a progenitor and perpetrator of trotting speed for three or four generations. Bayard's list of standard performers includes 15. Their average record is 2:23. They won in all 82 heats in 2:30 or better, an average of a fraction more than five heats apiece. Tattler got but five standard performers. Their average record is about 2:24. They won 74 heats in standard time, an average of a fraction less than 15 apiece. Bayard is credited with 11 sons that have sired a total of 16 performers. Tattler is credited with but nine sons that have sired standard speed, but these nine sons have sired 35 standard performers, or more than twice the number got by all of Bayard's sons. Bayard's daughters have produced much more successful as producers than Tattler's.

Parsons the investigation one generation further and it will be found that the 11 sons of Bayard had got in all one stallion that is a sire of standard speed. The daughters of these 11 have produced a total of six that have taken records in standard time.

The nine sons of Tattler are credited with 16 stallions that have sired standard speed. These nine sons are sires of mares which have produced 44 standard performers. Bayard, it will be remembered, inherited a pacer cross through his dam. She was by Adam's American and out of a daughter of Vermont Black Hawk. Tattler's dam was Telltale, a running-bred daughter of Telamon, by Medco, son of American Eclipse; second dam, Fies, by Medco; third dam, Martha Darnell, by Sumpter, son of Sir Archy, etc., road, stout, race-winning blood, uncontaminated by either cart horse or pacer crosses.

It is a mistake to claim that the dam of Henry Clay or the dam of Vermont Black Hawk was a pacer. Neither of them ever paced a step, so far as is known. The man who had charge of the dam of Vermont Black Hawk for eight years is authority for that statement concerning her.

It is not surprising that a writer who intimated that Jin Black, Amazilia and the Surrey Mare were pacers should add George M. Patchen and Iron's Cadmus to the pacer family. Nothing is known of the breeding of the second dam of George M. Patchen (2:23). Judging from what parties who know her told us years ago concerning her characteristics it is probable that no one ever thought her worth the trifling cost of the labor of learning how her sire and dam were bred. She was described as a coarse, clumsy animal, with just speed enough to qualify her to pull a dump cart, the use to which she was put, but she paced. She got with foal by Headem, a thoroughbred, when Headem was a colt. Headem was by imported Truette. The latter got the famous long-distance trotter Truette, that trotted 30 miles over the Union course, Long Island, June 11, 1885, in one hour five minutes and 50 seconds. The dam of this noted long-distance trotter was the celebrated trotting mare Fanny Pullen. Probably the pacer theorists will claim that Fanny Pullen must have come from pacer ancestors because she trotted. No one, however, has yet discovered a pacer cross in her pedigree.

Headem, which got the dam of George M. Patchen, from that coarse, clumsy, dump cart mare, was from Isaac, whose sire was the great four-mile race winner American Eclipse, and whose dam, Essey Benson, was by Virginian, a thoroughbred son of Sir Archy. Headem was himself a race winner, which proves that he had both speed and the ability to maintain it over a distance. The clumsy cart mare had neither. The produce of the cart mare and Headem "was very fast for her day and dead game." That is just what Wallace's Monthly for Nov. 1883 said, and the statement was in the editorial columns, too.

Now from what source did the dam of George M. Patchen (2:23) inherit that quality or those qualities which enabled him to go fast? Was it from the slow, coarse, clumsy, dump cart mare, or was it from Truette and Eclipse, through Headem? "She was dead game," said Mr. Wallace. From which of her ancestors did she inherit that quality? Was it from those that did not or those that did possess that quality and demonstrated it in races? It doesn't require a very deep student of heredity to answer that question correctly.

George M. Patchen got one trotter, Lucy (2:18), that was faster than he. How was the dam of Lucy bred? She was by May Day, a son of the great four-mile race winner Sir Henry, by Sir Archy, and her dam was by Fitzgibbon, a son of the running-bred, imported Expedition.

The Cadmus family was founded by Beach's Cadmus, a running-bred son of the renowned English Eclipse, and he by Duro, a son of Diomed, out of the noted race mare Miller's Damsel, a thoroughbred daughter of imported Messenger. The dam of Cadmus was Di Vernon, a daughter of Florist, the unbeaten son of Diomed which got the dam of that greatest race winner of his day, Boston. Beach's Cadmus got Iron's Cadmus. The dam of the latter is given in Bruce's Standard Book as by Brunswick, a son of Sumpter. The latter was by the famous Sir Archy.

Iron's Cadmus got the famous Pocahontas (2:17). He also got Blanco, the sire of the celebrated Smuggler (2:12). The dam of Blanco was by Irwin's Teakahoe, he by Herod Teakahoe, and he by Teakahoe, a thoroughbred son of the same Florist that got the dam of Beach's Cadmus. With such an inheritance of speed, courage and endurance as Blanco got through both sire and dam from the most successful racing blood of their day, it is not surprising that one of his got was a champion.

It is not surprising that in this enlightening age any writer can be found who is willing such absurd statements as, "We have discovered that we get speed at the harness gait from the pacer and from other sources." It is not surprising that a writer who intimated that Jin Black, Amazilia and the Surrey Mare were pacers should add George M. Patchen and Iron's Cadmus to the pacer family. Nothing is known of the breeding of the second dam of George M. Patchen (2:23). Judging from what parties who know her told us years ago concerning her characteristics it is probable that no one ever thought her worth the trifling cost of the labor of learning how her sire and dam were bred. She was described as a coarse, clumsy animal, with just speed enough to qualify her to pull a dump cart, the use to which she was put, but she paced. She got with foal by Headem, a thoroughbred, when Headem was a colt. Headem was by imported Truette. The latter got the famous long-distance trotter Truette, that trotted 30 miles over the Union course, Long Island, June 11, 1885, in one hour five minutes and 50 seconds. The dam of this noted long-distance trotter was the celebrated trotting mare Fanny Pullen. Probably the pacer theorists will claim that Fanny Pullen must have come from pacer ancestors because she trotted. No one, however, has yet discovered a pacer cross in her pedigree.

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eye on. I believe in the future of the Maine horse. I believe that breeders in this State will make a mistake if they do not raise every horse possible during the next five or six years. I refer to gentlemen's driving horses. This is the kind of horse that there is money in, providing the horse is bred right.

But just now I want to ask you if you realize to what an extent Maine has been drawn upon for horses. Why, it is now frequently said in New York that there are no more good horses to come out of Maine. It is true that there are not many good horses in the State at the present time, but to say that there are no more left is an injustice to Maine that I won't let pass without comment. As I said a moment ago, I never took 15 handomer horses out of the State that those we are now shipping. And if I remember rightly, in my day I have taken out some good ones.

Few people appreciate to what an extent American horses have been shipped abroad of late years. Why, the firm of Fies, Doer & Carroll alone shipped 45,000 horses from January, 1900, to July, to England, France, Germany, Austria and other European countries. These horses, you understand, were all good animals, blooded horses, just the kind of horses that we want ourselves.

It is any wonder that with such quantities going out of the country that horses are a scarce article in Maine? They are getting scarce everywhere? Time was when we used to import a good many horses from Canada, but we don't now, for the simple reason that the Ontario breeders are finding a market on the other side of the water. Consequently we are losing not only our own horses, but have been shut out of importing from the Canadian market as well.

You can readily see that not many years of these conditions can prevail before the best quality of the American horse will become a scarce article than he is now.

Right here lies the opportunity of the Maine breeder. This State has a good name in the horse world, and if the breeders here will not take advantage of the fact and put every good horse into the market that is possible during the next few years, why, the blame will rest upon themselves.

Here is the breeder's opportunity. He need not be afraid of glutting the market. For many years to come the demand for the rightly bred gentleman's driving horse will be greater than the supply. I say to the Maine farmer and the Maine breeder, raise every horse you can. Have faith in the future of the Maine horse,—but breed him right.

Style adds very much to the selling value of a horse, especially when the animal is designed for a fine grade of carriage horse. If you are raising working horses it doesn't count for so much, but those are not the kind of horses we are discussing. A modern carriage horse must be a thing of beauty as well as of speed.

During the sale last Monday held by Fies Doer & Carroll, a son of Ethan Allen was sold for \$95. This horse was 39 years old, a royal old golden chestnut. He was a far prettier horse than any Hambletonian horse ever was. I admired the old fellow as he was brought out. He was an old friend of mine, for I had known him all his life.

He was raised by the late R. D. Whitecomb of Newmarket Junction, and was sold when he was five years old to a builder in New York. The man kept him a long time, and finally the horse passed into other hands when 30 years of age. When sold the other day he was as rosy and smooth as a seal.

The gentleman's driving horse in order to command a high price today must have style, style, beauty, combined with good knee and hock action. He must be good headed, a fast walker and free, cheerful driver. He must be so pure galloped that he will not require boots to protect him and weights to keep him level. He must also show some speed, the more speed he can show, combined with quality named above, the more customers will want him and the more money he will bring. The stallions that get this kind with the greatest uniformity are the ones for breeders to patronize.

The success of breeders in producing this

class of animals will depend considerably upon the kind of mares that they use for brood purposes. They must not expect any stallion to get such animals with uniformity from inferior mares. If they do they will be sadly disappointed. The mares must be well bred. They must come from ancestors which were noted at least for some of the qualities which are desired in the offspring, and the more of them the better. The mares must be well fed and well cared for. The mare which does not have plenty of bone and muscle producing food, and that of good quality, is sure to produce an inferior foal, one that will be an inferior animal when matured, no matter how choice her blood lines are or how good the horse to which she is bred. The foal, too, should be kept in a thrifty condition by plenty of nutritious food from the time he is dropped until he is fully grown.

Treat your horse well and he will treat you well. Give him a bed of German Felt Mat. O. B. Barrett, 45 Market Street, Boston, Mass.

FOR SALE.

Abdul Amer, bay gelding (2:10 1/2) half in the track.

For sale, Abdul Amer, bay gelding, 16 hands high, trotter, record 2:19 1/4 (half-mile track), by Hambleton, 2:07 1/4; dam, 3 years old, 2:18 1/4, by Alcyon. In ten starts he was first five times, second once, third twice, unplaced twice; has been a mile in 2:12 1/4, and is the best half-mile-track horse in his class in the country; good headed and sound; will sell cheap; worth the money. Write.

C. F. WILLIAMS, Caring, N. Y.

FOR SALE OR EXCHANGE.

One of the fastest pacer's living, gelding, mark 2:04 1/2, been miles in 2:10 halves in 1:08 this year, quarters in 29 seconds. Very rugged, but probably outclassed as a race horse; a great brush horse and clever roader, afraid of nothing. Will sell cheap; for cash or trade for a promising youngster.

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VALUABLE MARE FOR SALE.

Patience blood, seven years old, weighs 1050, height 15 1/2, warranted perfect great, open trotting gait; very fast, no record, best driver in Maine, worth \$1800, will sell for \$700. Address

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The brown pacer gelding Princeton B., 2:18 1/4, by Sphinx (the leading sire of 1900). Worked and raced but part of one season, very reliable of speed, no boots or humpies. Can beat his record 30 seconds in condition; can step a 3 1/2 clip n.w.; can beat most any horse in a brush, never makes a break; city broken, sound, safe and kind. Look him up. He will do to race in his class. Can beat any 3/4's pacer on the snow. Also

A PAIR of match carriage or road mares, 5 years old, 16 hands, dark chestnuts, with snipe, rangy and bloodless, stylish and active, sound and afraid of nothing. A very desirable road team, perfectly broken. Have used all of the above for my own pleasure and business. Will now sell at a bargain. Write.

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Bay pacer, 16 1/2, nine years old, very handsome, quarters in 31 seconds. One of the fastest sleigh horses in America.

Upholster mare, trotter, 15 1/2, weighs 1000 pounds, nine years old, sound and kind, standard and registered. Very handsome, and a great road mare, record 2:30 1/4, trials in 2:16, half in 1:06 and quarter 31 1/2 seconds. In condition can beat her mark several seconds. She is a very fast sleigh mare.

Very stylish bay family horse, 15 1/2, 1100 pounds, six years old, sound, roads 10 miles an hour. Fearless and safe for lady to drive.

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